

What Works Clearinghouse



Dropout Prevention

October 5, 2006

Career Academies

Program description	<i>Career Academies</i> are school-within-school programs operating in high schools. They offer career-related curricula based on a career theme, academic coursework, and work experience through partnerships with local employers. ¹
Research	One study of <i>Career Academies</i> met What Works Clearinghouse (WWC) evidence standards. This randomized controlled trial included 474 youth who were predicted to be most at-risk of dropping out of high school prior to the intervention. ² The <i>Academies</i> were located in eight urban areas in six states.
Effectiveness	<i>Career Academies</i> were found to have potentially positive effects on staying in school, potentially positive effects on progressing in school, and no discernible effects on completing school for those youth most at-risk of dropping out prior to the intervention. ³ The <i>Career Academies</i> served a more heterogeneous population, and the results for the high-risk youth may not be independent of their participation in the intervention with youth less at risk of dropping out.

	<i>Staying in school</i>	<i>Progressing in school</i>	<i>Completing school</i>
Rating of effectiveness	Potentially positive effects	Potentially positive effects	No discernible effects
Improvement index⁴	Average: +13 percentile points Range: +11 to +15 percentile points	Average: +13 percentile points Range: +11 to +15 percentile points	Average: -0.1 percentile points

1. This report focuses on *Career Academies* with a school-within-school structure. Some *Career Academies* have operated as entire schools but are outside the scope of the review because their primary focus is not dropout prevention.
2. This report focuses on the 474 youth in the study sample who were most at risk of dropping out of high school because the *Career Academies* model initially focused on high-risk youth; these youth represent 27% of the total study sample of 1,764. Researchers used student background characteristics (including sibling dropped out, overage for grade, transferred schools two or more times, and attendance, GPA, and credits earned in the year of random assignment) to develop a model to predict whether students in the comparison group dropped out of school, and then applied the estimated model to predict which intervention-group students were most likely to drop out. The findings for those youth considered less at-risk of dropping out of school are presented in Appendices A4.1–A4.3.
3. The evidence presented in this report is based on available research. Findings and conclusions may change as new research becomes available.
4. These values show the average and range of improvement indices for all findings in the three review domains across the one study included in this report. The range is provided only if more than one outcome was measured within a domain.

Additional program information

Developer and contact

Information on the history of *Career Academies* and current resources for program implementation is available from the [National Career Academy Coalition \(NCAC\)](#) and the [Career Academy Support Network \(CASN\)](#).

Scope of use

The [NCAC](#) reports that at least 1,500 *Career Academies* are currently in operation, and a registry maintained by the [CASN](#) includes more than 1,600 *Career Academies*.

Description of intervention

Career Academies were developed more than 30 years ago as a drop-out prevention strategy and targeted youth considered most at risk of dropping out of high school. More recently, *Career Academies* have broadened the kinds of students they serve, consistent with efforts to integrate rigorous academic curricula with career themes and to attract students who are

preparing for post-secondary education. *Career Academies* operate within a larger high school and are guided by a career theme such as health care, finance, technology, communications, and public service. Students take their career-related courses within the *Academy*, which often are taught by the core team of *Academy* teachers. Some *Academies* integrate their courses with other academic subjects required for graduation. *Career Academies* also partner with local employers, who provide internship opportunities and mentoring to students, contribute resources, participate in special events, and serve on *Academy* advisory boards.

Cost

Information on the cost of *Career Academies* was found for the California Partnership Academies and was estimated in 2004 to be \$600 a pupil more than a district's average per pupil expenditure.⁵ The WWC did not find information on the cost to deliver services to the high-risk youth within the *Career Academies*.

Research

The WWC reviewed seven studies of the effectiveness of *Career Academies*. One study (Kemple & Snipes, 2000; Kemple, 2004) was a randomized controlled trial that met WWC evidence standards. Six studies did not meet WWC evidence screens.

The Kemple and Snipes (2000) and Kemple (2004) study was a randomized controlled trial that included a total of 1,764

students who applied to the entrance grade (9th or 10th) of nine *Career Academies* included in the evaluation. Of these, 474 students were predicted to be at high risk of dropping out of high school.² The study measured outcomes at the end of a student's projected 12th-grade year and then four years after a student's projected 12th-grade year.

Effectiveness

Findings²

The WWC review of interventions for dropout prevention addresses student outcomes in three domains: staying in school, progressing in school, and completing school.

Staying in school. Kemple and Snipes (2000) reported that for the sample of youth most at risk of dropping out of high school,

Career Academies had a positive and statistically significant effect on dropping out. At the end of the students' projected 12th-grade year, 21% of the *Career Academy* group and 32% of the comparison group had dropped out of high school. Findings for youth who were predicted to have a low or medium risk of dropping out of high school are presented in Appendix A4.1.

5. This estimate is derived from the following sources: www2.bc.cc.ca.us/techprep/partnershipplus.html and www.ncset.org/publications/essentialtools/dropout/part3.3.02.asp.

Effectiveness (continued)

Progressing in school. Kemple and Snipes (2000) reported that for the sample of youth most at risk of dropping out of high school, *Career Academies* had a positive and statistically significant effect on progressing through high school. At the end of the students' projected 12th-grade year, *Career Academy* youth had earned an average of 19 credits and comparison youth had earned an average of 17 credits, and 40% of *Career Academy* youth and 26% of comparison youth had earned sufficient credits to graduate. Findings for youth who were predicted to have a low or medium risk of dropping out of high school are presented in Appendix A4.2.

Completing school. Kemple (2004) reported that four years after students' projected 12th-grade year, there was no statistically significant difference between the percentage of high-risk *Career Academy* and comparison youth who earned a diploma or GED certificate; 83% of the youth in both groups had either graduated with a diploma or received a GED. Findings for youth who were predicted to have a low or medium risk of dropping out of high school are presented in Appendix A4.3.

Rating of effectiveness

The WWC rates an intervention's effects for a given outcome as positive, potentially positive, mixed, no discernible effects, potentially negative, or negative. The rating of effectiveness takes into account four factors: the quality of the research design, the statistical significance of the findings,⁶ the size of the difference between participants in the intervention condition and the comparison condition, and the consistency in findings across studies (see the [WWC Intervention Rating Scheme](#)).

The WWC found *Career Academies* to have potentially positive effects on staying in school, potentially positive effects on

progressing in school, and no discernible effects on completing school.

Improvement index

The WWC computes an improvement index for each individual finding. In addition, within each outcome domain, the WWC computes an average improvement index for each study and an average improvement index across studies (see [Technical Details of WWC-Conducted Computations](#)). The improvement index represents the difference between the percentile rank of the average student in the intervention condition versus the percentile rank of the average student in the comparison condition. Unlike the rating of effectiveness, the improvement index is entirely based on the size of the effect, regardless of the statistical significance of the effect, the study design, or the analysis. The improvement index can take on values between -50 and +50, with positive numbers denoting favorable results for the intervention group. The improvement index for staying in school is +13 percentile points based on one study. The average improvement index for progressing in school is +13 percentile points based on one study, with a range of +11 to +15 percentile points across the findings. The improvement index for completing school is -0.1 percentile point based on one study.

Summary

The WWC reviewed seven studies on *Career Academies*. One of these studies met WWC evidence standards, and the remaining six studies did not meet WWC evidence screens. Based on this one study, the WWC found potentially positive effects on staying in school, potentially positive effects on progressing in school, and no discernible effects on completing school. The evidence presented in this report is limited and may change as new research emerges.

6. The level of statistical significance was reported by the study authors or, where necessary, calculated by the WWC to correct for clustering within classrooms or schools and for multiple comparisons. For an explanation, see the [WWC Tutorial on Mismatch](#). See [Technical Details of WWC-Conducted Computations](#) for the formulas the WWC used to calculate the statistical significance. In the case of *Career Academies*, a correction for multiple comparisons was needed for the multiple measures reported in the progressing in school domain.

References **Met WWC evidence standards**

Kemple, J. J., & Snipes, J. C. (2000). *Career Academies: Impacts on students' engagement and performance in high school*. New York: MDRC (Manpower Demonstration Research Corporation).

Additional sources:

Kemple, J. J. (2004). *Career Academies: Impacts on labor market outcomes and educational attainment*. New York: MDRC (Manpower Demonstration Research Corporation).

Kemple, J. J., & Rock, J. L. (1996). *Career Academies: Early implementation lessons from a 10-site evaluation*. New York: MDRC (Manpower Demonstration Research Corporation).

Did not meet WWC evidence screens

Dayton, C., & Weisberg, A. (1987). *School-to-work and academy demonstration programs: 1986-87 evaluation report* (Policy Paper No. PC87-11-12-EMCF). Berkeley, CA: Policy Analysis for California Education.⁷

Additional source:

Dayton, C. (1988). "Jobs for the Disadvantaged" graduate follow-up survey (Policy Paper No. PP88-5-6). Berkeley, CA: Policy Analysis for California Education.

Dayton, C., Weisberg, A., & Stern, D. (1989). *California Partnership Academies: 1987-88 evaluation report* (Policy Paper No. PP89-9-1). Berkeley, CA: Policy Analysis for California Education.⁷

Additional sources:

Stern, D., Dayton, C., Paik, I., & Weisberg, A. (1989). Benefits and costs of dropout prevention in a high school program combining academic and vocational education: Third-year results from replications of the California Peninsula Academies. *Educational Evaluation and Policy Analysis*, 11(4), 405–416.

Stern, D., Dayton, C., Paik, I., Weisberg, A., & Evans, J. (1988). Combining academic and vocational courses in an integrated program to reduce high school dropout rates: Second-year results from replications of the California Peninsula Academies. *Educational Evaluation and Policy Analysis*, 10(2), 161–170.

Dayton, C., Weisberg, A., Stern, D., & Evans, J. (1988). *Peninsula Academies replication: 1986-87 evaluation report* (Policy Paper No. PP88-4-3). Berkeley, CA: Policy Analysis for California Education.

Dayton, C., Reller, D., & Evans, J. (1987). *Peninsula Academies replication: 1985-86 evaluation report* (Report No. PC87-1-1-WFHF). Berkeley, CA: Policy Analysis for California Education.

Elliott, M. N., Hanser, L. M., & Gilroy, C. L. (2002). Career Academies: Additional evidence of positive student outcomes. *Journal of Education for Students Placed at Risk*, 7(1), 71–90.⁷

Hanser, L., & Stasz, C. (1999). *The effects of enrollment in the Transportation Career Academy program on student outcomes*. Santa Monica, CA: RAND.⁷

Maxwell, N., & Rubin, L. (2000). *High school career academies: A pathway to educational reform in urban school districts?* Kalamazoo, MI: Upjohn Institute for Employment Research.⁸

Additional sources:

Maxwell, N. (2001). Step to college: Moving from the high school career academy through the 4-Year University. *Evaluation Review*, 25(6), 619–654.

Maxwell, N., & Rubin, L. (2001). *Career academy programs in California: Outcomes and implementation*. Berkeley, CA: University of California, California Policy Research Center.

7. Lack of evidence for baseline equivalence: the study, which used a quasi-experimental design, did not establish that the comparison group was equivalent to the intervention group at baseline.

8. Severe overall attrition: the study, which used a quasi-experimental design, lost a large proportion of its sample from the pretest to the posttest.

References *(continued)*

Maxwell, N., & Rubin, L. (1997). *The relative impact of a career academy on post-secondary work and education skills in urban, public high schools* (Discussion Paper No. 97-2). Hayward, CA: California State University, Human Investment Research and Education Center.

Reller, D. J. (1984). *The Peninsula Academies: Final technical evaluation report*. Palo Alto, CA: American Institutes for Research.⁷

Additional sources:

Reynolds, D. F. (1984). *The Peninsula Academies: Third yearly interim report*. Palo Alto, CA: American Institutes for Research.

Reynolds, D. F., & Reeves, J. K. (1983). *The Peninsula Academies: Second yearly interim report*. Palo Alto, CA: American Institutes for Research.

For more information about specific studies and WWC calculations, please see the [WWC Career Academies Technical Appendices](#).